

A Magazine of Theory and Practice

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The Journal of Educational Sociology

A Magazine of Theory and Practice

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The JOURNAL of EDUCATIONAL SOCIOLOGY

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EDITORIAL

The present issue of THE JOURNAL, which has been prepared under the direction of Dr. Frederic M. Thrasher, director of the motion-picture project of New York University, is devoted to a national four-year study of motion pictures, initiated by the Motion Picture Research Council, financed by the Payne Fund, and carried on under the direction of Dr. W. W. Charters, director of the Bureau of Educational Research of Ohio State University and chairman of a national committee of experts in the fields of psychology, sociology, and education.

The first popular publicity given to the results of these significant researches has appeared in the September, October, and November 1932 issues of *McCall's Magazine*. A popular volume synthesizing the findings of the total study is to be written by Henry James Forman. Scientific monographs by members of the research committee are to be published by the Macmillan Company in a series, the first of which is to appear this month.

These studies are significant for education because they are an attempt to determine the effects of a type of informal education that must be reckoned with in any far-reaching educational program, public or private. Schools are already beginning to awaken to the necessity of controlling the motion-picture diet of children through better-

films committees. Local communities are passing ordinances prohibiting certain types of films. A movement is already under way to develop community theaters which shall definitely fit motion-picture diets to the need of different cultural and age groups.

A great contribution of these national studies to social science is the formulation and testing of methods for determining the effects of a type of institution exerting social influence. The organization and methods of these researches in relation to each other are described, therefore, in the present issue of *THE JOURNAL* without an attempt to include conclusions.

The following statement regarding the scientific nature of these studies has been prepared by Mr. William H. Short, director of the Motion Picture Research Council,¹ to whom a great deal of the credit for the successful conclusion of the research is due.

The Motion Picture Research Council (formerly called the National Committee for Study of Social Values in Motion Pictures) originated and promoted the researches described in the articles which follow. The Council is composed of social workers and socially minded citizens (happily including many social scientists) who are interested in the public welfare. A concern they hold in common that the new motion-picture art shall come into its own as an instrument for creating more intelligent and useful citizens, together with considerable apprehension over the nature and effects of many of the "movies" now being exhibited to children and impressionable adults, constitute the bonds that brought and hold them together in the Council.

When they had organized, they at once found themselves wishing to know all obtainable facts about the movies, movie audiences, and the effects of movies on these audiences. They considered such complete knowledge the only adequate basis on which a constructive program for more socially helpful films could be based. To get it, they were willing to spend patient years of work and waiting.

Although the Council has in its membership many eminent research professors, it is neither organized nor financed to conduct research. It, therefore, turned to research agencies and asked their help in getting the facts it desired. Among the agencies it approached was the Payne Fund.

¹The chairman of the Motion Picture Research Council is Dr. John Grier Hibben, formerly president of Princeton University.

The special interest of the Payne Fund is in influences that mold the lives of children and youth. The Council asked the Fund to make a series of studies covering the influences of theatrical films upon this youthful population. Does the child go to the movies? What does he see when he goes? Does he take in what he sees? Does he remember it? What do the movies do to his sleep, his health, his emotions, his attitudes, his behavior patterns, his conduct? Is there a connection between motion pictures and delinquency and crime? The Fund agreed to make the studies.

The Council told the Fund that it wished to get all obtainable facts in this field and that it hoped they would be absolutely objective, unprejudiced, and authoritative.

As a first step, the Fund created an Educational Research Committee which is described in the article by Dr. W. W. Charters, research director of the committee. The members of this research committee examined the proposed studies with reference to their practicability and parceled out among themselves those they believed could be carried on to successful conclusions.

Carrying out the wish of the Motion Picture Research Council that the research men be put in a position where they would be wholly free to pursue their studies without even a suspicion of pressure, formal or informal, to get predetermined results, the Payne Fund asked the research committee to draw up adequate expense budgets for the several studies. When this had been done, the Fund deposited the monies asked for with the several universities in which the research men were working, subject to their own requisitions. Thus the factor of financial independence was added to that of scientific integrity which, with such men, would in any case have been controlling.

For four years, quietly and without disturbing publicity of any nature, the research men labored on their commissions to obtain the facts. Under the chairmanship of Dr. Charters the committee met annually for a two- or three-day conference in which each man reported his techniques and tentative findings, submitting everything to the criticisms and suggestions of his associates. But in these research conferences criticism never passed into dictation, attempted or implied, and each man went away from the conference to pursue his independent quest for motion-picture facts as free as when he came.

It is on the basis of the findings obtained during this four-year period in this carefully organized, adequately financed, scientific research and in the light of the discussion these findings will arouse that the Motion Picture Research Council in a leisurely and constructive spirit will undertake to formulate and publish recommendations for the helpful development and use of the new motion-picture art.

A TECHNIQUE FOR STUDYING A SOCIAL PROBLEM

W. W. CHARTERS

In the summer of 1928, Mr. W. H. Short, director of the National Committee for Study of Social Values in Motion Pictures, now known as the Motion Picture Research Council, proposed to the writer the possibility of securing accurate data concerning the influence of moving pictures upon children. He stated that his organization had been formed by a number of important public persons who were disturbed by the practices and policies of the motion-picture industry and were apprehensive about the harmfulness of the influence exerted by the movies upon the American public and particularly upon the children and youth of the nation. But, he explained, the Council found, when it began to collect evidence to substantiate these impressions and lay plans for the improvement of the motion-picture situation, that the quality and quantity of the data available were not as high as the Council would like to have them. It was not difficult to collect the types of evidence which are ordinarily used in settling social issues—the opinions of thoughtful people, individual experiences, arrays of statistics, and resolutions of important organizations. But most of these data were based upon personal judgment and individual opinion and were, therefore, open to controversy. So the Council had decided, he stated, to ask competent investigators to use the best scientific techniques and, if possible, discover valid answers to certain questions which were of concern to the Council. He, therefore, presented the proposal to assemble persons skilled in using the techniques of sociology, psychology, and education to study these complicated matters, and thereby seek to substitute facts for impressions and convictions.

In the autumn of 1928, a group of university men and

women were assembled in Columbus to see what could be done, and with them met the leaders of the Council and officers of the Payne Fund, which was prepared to support a program of investigation if one should be developed. At this meeting the members of the Council elaborated in considerable detail the issues with which they were concerned and the questions upon which scientific data were lacking. The university group deliberated upon this information to discover the types of investigation which might be carried on, and prepared a tentative series of studies which gave promise of developing scientific information about the issues presented by the Council. The Payne Fund agreed to support the study and the investigators were organized into a Committee on Educational Research of the Payne Fund. Promptly the studies got under way. Each of the investigators worked independently upon his problem. Once a year they met and reviewed what they had done, eliminated studies which gave no promise of yielding results and added studies which looked promising. In 1932 the studies are practically completed and ready for publication, which is now in process.

The administration of the investigation was based upon a central policy—to ignore detailed questions temporarily and select pivotal questions for study which, when answered and arranged in a series, would provide in skeleton form a measure of the influence of moving pictures upon children. Details might then be filled in later without altering the general form of the picture.

In acting upon this policy the committee developed a plan involving four procedures.

The first problem was to assemble a group of individuals (as already described) who were competent to examine a complexity of issues and decide upon the feasibility of setting up a program of investigation. The issues being sociological and psychological, it was logical to assemble a group of sociologists, psychologists, and educa-

tors whose experience in studying the problems which seemed to be involved in this situation was adequate to the task in hand and whose scientific reputation and judgment were good. This group consisted of Messrs. Thurstone, Freeman, May, Renshaw, Stoddard, and Mrs. Charters in psychology, Messrs. Blumer and Park in sociology, Dr. and Mrs. Seham in hygiene and health, and Mr. Dale in education. At later dates Mr. Ruckmick in psychology and Messrs. Thrasher and Peters in sociology were added to investigate problems that were essential to complete the series. To this group were added certain assistants to some of the foregoing members who worked more or less under their direction: Messrs. Cressey, Dysinger, Holaday, Hauser, and Shuttleworth. Other assistants attended the committee meetings upon occasion.

In its annual meetings, the members of the committee formulated plans, reported progress, and criticized and assisted each other. Its functions were those of a conference upon technical matters. It made no recommendations. The conclusions drawn by each investigator from his studies are presented upon his individual responsibility.

The second administrative problem of the committee was to examine the problems presented to it in order to find out what they were. This procedure was simple. At the initial meeting of the committee a number of the active members of the Motion Picture Research Council presented the issues in conferences extending over several meetings during three days. These members of the Council who had intimate and first-hand knowledge of the production and distribution of pictures and of the policies and practices of the industry discussed the moving-picture situation in detail with ample elaboration. As the committee listened to the discussion the investigators quickly observed the controversial nature of the issues, the strong feelings aroused by these issues, and the vigorous positions taken by the Council members. At the same time they located

points at which they might provide data less controversial, less subject to opinion, and more valid than the data available to the members of the Council upon those points. The discussions were useful in helping the investigators to locate possible problems for investigation and to orient themselves in the field. They proved to be effective in that the program of study developed by the committee during the initial meetings did not need to be radically changed during the four years that the committee worked upon it.

The third administrative problem was the setting up of the program of investigation. It proceeded along these lines: First, the possible effects of moving pictures as a medium of visual instruction were isolated. It was agreed that moving pictures might affect the knowledge, attitudes, emotions, and conduct of children. These were studies in which the actual content of commercial pictures would be a minor matter, and the effect produced through visual media would be the major consideration. Second, the content of commercial pictures would be examined to see the direction in which information, attitudes, emotions, and conduct would tend to be developed by current pictures. The first group of studies is general in nature; the second deals specifically with the effect of pictures currently shown in the theaters. If the pictures are "good" and if they have any influence the effects will obviously flow in one direction; if "bad" in another. In pursuance of this policy the following studies were assigned:

The amount of information gained by one exposure to a film was studied by Messrs. Stoddard and Holaday at the University of Iowa. Adequate techniques were set up to ascertain how many facts children learned and how long the facts persisted in memory at different ages, beginning with children in the second grade. The significance of the amount required was expressed as the percentage which was acquired by children of different ages of facts learned by superior adults. That is, children in the second grade could answer, let us say, 75 per cent as many factual

questions as superior adults and could remember them 75 per cent as well. This study would, therefore, reveal the extent to which an adult who accompanies an eight-year-old child to a movie may expect the child to see what he sees, and enable him to predict the amount the child would forget in a stipulated time.

The effect of moving pictures upon the emotional experience of children was measured with the use of the electric galvanometer and other instruments by Messrs. Ruckmick and Dysinger of the University of Iowa. In this case it was possible to measure the deflection of a needle as the subjects watched the unfolding scenes in the pictures.

The extent to which moving pictures might be expected to influence the attitudes of children towards various values was studied by Messrs. May and Shuttleworth of Yale University and Mr. Thurstone and Miss Peterson of the University of Chicago. The Yale study used certain techniques developed in the investigations of the Institute of Social and Religious Research for other purposes. These techniques, however, were not entirely satisfactory because it was not possible to find children who had not attended the movies to compare with those who had, and the test of attitude consisted of the answer to a single question.

For the Chicago study the investigators constructed a number of scales following the well-known Thurstone techniques. With the use of these scales it was possible to measure the effect of a single picture upon the attitude of high-school children towards the Negro, the Chinese, crime, and the like. The investigators were able to measure the amount of change in attitude from one exposure. They were also able to depict the persistence of change in attitude after extended periods had elapsed. In a few cases they were able to measure the cumulative effect of exposure to several pictures of the same type.

Having thus cared for the effect of pictures upon the information, emotions, and attitudes, attention was given

to the effect of theater attendance upon the health of children. Originally it was proposed to study the health of children directly, but for various reasons the committee decided to study the effect of motion pictures upon motility in sleep and relate this to the effect upon health through the relationship of sleep disturbance to health. This study was carried on by Messrs. Renshaw and Miller of Ohio State University.

Since conduct is influenced through the acquisition of information, the modification of attitudes, the stirring of the emotions, and the physical condition of people, it may be deduced that conduct can be predicted if these factors are known. However, the committee decided to institute investigations to discover evidences of one-to-one correspondence between the movies and the conduct of children to determine in effect whether the conduct patterns of individual children could be traced to motion pictures which they had seen.

This study was conducted by Messrs. Blumer and Hauser of the University of Chicago. It consisted of two subordinate studies: the effect upon conduct in general and the effect upon delinquency and crime as a special study. The techniques used were based mainly upon autobiographies written by high-school children, college students, delinquents and criminals, and interviews with those who wrote the autobiographies. At New York University Messrs. Thrasher and Cressey, in connection with the Boys' Club Study, investigated by a variety of techniques the same problem of one-to-one correspondence between patterns of conduct seen in the movies and those practised by children.

This group of studies thus presents in objective terms what may be expected to be the influence of the visual presentation of materials upon the experience of children.

The second group of studies dealt with certain educational aspects of commercial pictures currently shown in motion-picture theaters. The first question to be consid-

ered was this: "What do people see when they attend the movies?" The answer to this question was secured by Mr. Dale of Ohio State University through an analysis of the content of moving pictures by scenes. These scenes were classified with such captions as crime, cabaret, murder, courage, ambition, and the like. The content of scores of pictures shown during 1931 was examined, and the investigation shows how many of each type of scene are contained in the large sample of pictures analyzed.

The next question logically raised in following the argument through is this: "Are the pictures which people see 'good' or 'bad'?" What constitutes "goodness" or "badness" in a picture was studied by Professor C. C. Peters of Pennsylvania State College. In effect he assumed that the "goodness" or "badness" of a scene was determined by the opinion of the people who judged it. A picture in itself is not "good" or "bad"; it appears good to an individual or a group when it harmonizes or conflicts with the mores of the individual or the group. Consequently, he constructed scales of actions ranging from those which were in serious conflict with the mores of a group to those which were congruent with the mores. This he did for four types of conduct, one of which was aggressive lovemaking by women, and another of which was parental attitude towards children. With this scale at hand he was able to determine the judgment of what was considered to be good or bad by various groups of people such as college professors, young male factory workers, ministers, young society women in New York, and the like.

These standards having been determined, it was possible to view selected scenes in the movies and decide where any one of these groups would place the scene in the scale, or, in other words, to discover whether or not the action in the scene was above or below the level of the standards of a specified group.

Having thus presented the content of current moving pictures and in certain respects having determined

the moral content, the committee was prepared to consider the question "Do many children see these pictures?" The answer to this question was studied by Mr. Dale, who discovered from data collected over a wide geographical area that children of all ages attend the movies on the average of once a week. This having been established, it is possible even to say that children do see the current pictures and are exposed to the scenes as analyzed.

The practical outcome of the study is this: We can be assured that each picture which a child sees has a measurable influence upon him. He learns new facts, his emotions are stirred, his attitudes are changed, his conduct patterns are modified, and his sleep is affected—all in a measurable degree. If the pictures are "good" he will be influenced in that direction; if they are "bad" he will be moved in a corresponding manner. The picture of today helps to mold the citizen of tomorrow.

One means of control over the influence of moving pictures upon children lies in the education of the children themselves in appreciation and criticism of pictures. If children can learn to discriminate and judge the value of pictures they will be less ignorantly influenced. Moving-picture appreciation is, then, one means of control. This problem was studied by Mr. Dale, who has produced a textbook on the subject for use by high-school students to teach them how to understand, evaluate, and criticize the pictures which they see.

In conclusion, the committee members have blocked out an answer to the perplexing question of the influence of motion pictures upon children. They have lifted the argument from the level of controversy and opinion to the level of objective fact, and have provided as a by-product a sample of an interesting technique for resolving a complicated social problem into a logical series of studies, which, when independently investigated, may be meshed into a clear-cut answer to the original question.¹

¹The following articles appear in the logical sequence suggested above. They present in greater detail the techniques of research as evolved in the various phases of the motion-picture studies.

MEASURING THE EFFECT OF MOTION PICTURES ON THE INTELLECTUAL CONTENT OF CHILDREN

GEORGE D. STODDARD

This brief report is devoted to a description of the purposes and methods utilized by P. W. Holaday,¹ under the direction of the writer, in one part of the broad inquiry into motion-picture influences. The restricted purpose was to ascertain the effect of viewing theatrical films under ordinary conditions on children's information and to analyze their comprehension and retention of material.

The original plan called for two approaches: Type X studies devoted to the measurement and analysis of what children learn from the movies, and Type Y studies which attempted to show the *change* produced by this new (movie-induced) knowledge on the general mass of information possessed by the children.

The simplest way to clarify the difference between these two approaches is to insert here a condensed version of the original scheme of attack:

Type X, Study A: The measurement of factual information gained by children from a particular film.

Aims

To discover:

1. The extent of the children's knowledge of the film
2. The curve of forgetting with respect to this knowledge
3. Age-level differences
4. Mental-level differences
5. Comparison with adult knowledge of the same film
6. The *type* of knowledge most (least) often gained and retained; such as character details, episodes in love scenes, what happened to the "villain," details of setting, customs, names of actors, etc.
7. The accuracy of the knowledge gained and retained

¹P. W. Holaday. *The Effect of Motion Pictures on the Intellectual Content of Children.* Doctor's dissertation, University of Iowa, 1930.

Method

1. Select stock types of pictures to be used as stimuli; e.g., (a) comedy-drama (love motif predominant); (b) "spook"; (c) wild west; (d) South-Sea romance; (e) slapstick comedy; (f) screen version of a classic; (g) war.
2. Four or more stenographers are to take down as elaborately as possible all the factual elements in the picture and these notes are to be checked for accuracy and completeness by the research director and his assistants. Probably two viewings of each picture will be desirable.
3. From these records an objective type of information test is to be built. This is given to all the subjects the morning following the movie (without previous announcement of the test). Test items cover in detail such points as the setting, actions, results, scenes, etc., but only from the standpoint of simple content.
4. The test is repeated without warning one week and one month later.
5. All tests are scored and analyzed in accordance with the statements under "aims" above. Types of knowledge are not segregated in the test, but they are in its analysis.
6. The same subjects should be tested on several types of pictures, but with sufficient intervals between "significant" pictures to prevent any preparatory measures on their part.

Materials

1. Objective tests (to be devised): (a) Each test must fall within the reading range of the subjects.
2. Intelligence test and school records of the children.

Subjects

1. A group of at least fifty children at each age level in each age research unit. (Given the same picture and the same test, units from various sections could be combined.)
2. Suggested age levels: (a) age 8 ($7\frac{1}{2}$ to $8\frac{1}{2}$); (b) age 12 ($11\frac{1}{2}$ to $12\frac{1}{2}$); (c) age 16 ($15\frac{1}{2}$ to $16\frac{1}{2}$).
3. A group of fifty adults: teachers, graduate students, parents.

Type X, Study B: The measurement of the comprehension and interpretation of a film on the part of children.

Aims

To discover:

1. The extent of the children's comprehension of the film
2. Temporal changes in this comprehension
3. Children's interpretation of various actions and ideas;
(a) extent and kind

4. Age-level differences
5. Mental-level differences
6. *Types* of interpretation: (a) similar to adults; (b) fantastic; (c) close to intent of the film (if discoverable).

Method

Same as in Study A, but test must be of a different type, and great care must be taken to secure essential agreement among adults as to what the correct (or at least common) comprehensions and interpretations are.

Type Y, Studies A and B: The measurement of changes produced in children's knowledge (including comprehension and interpretation) by films.

Aims

To discover:

1. The extent of revision of factual information in the light of the film
2. Duration of this revision
3. Age-level differences
4. Mental-level differences
5. Types of knowledge changes; e. g., in new concepts of foreigners, Hollywood, countries, customs, etc.

Method

1. A detailed analysis in advance of a film to record all possibilities for new knowledge to be gained from it.
2. A test devised related to the chief points and given to children in advance of attendance at the film. The test is not on the film content, but on the information which is likely to be affected by this known film content.
3. Attendance at the film.
4. Retest to discover changes produced: (a) next morning; (b) one week and one month later.
5. By "change" is meant: (a) new knowledge; (b) increased accuracy (or inaccuracy) in old knowledge; (c) lapse of old knowledge.
6. Illustrative types of knowledge: (a) vocabulary; (b) historical events and persons; (c) film industry and personnel; (d) ways people live; (e) geographical; (f) knowledge of validity of screen events.

In the actual prosecution of the research, certain modifications proved to be necessary. For example, it proved infeasible to test the children the day after the show and again one month later with a view to measuring the retention from the original showing of the films. The testing

the day after tended to impress the children unduly, with the result that further tests were rendered somewhat invalid. Hence groups were matched on school grade, intelligence, and reading ability. This necessitated rather large samplings of children. In the total Iowa sampling nine hundred observers assisted in one or more of sixteen tests. Extension of the work to Ohio towns in 1930-1931 added substantially to the population, which may be said to represent adequately the large and small towns of these two States. It may be inferred that the sampling is adequate for unselected American-born, white, city school children.

It was found also that, for technical reasons, the true-false type of test does not lend itself well to a study of retention. Perhaps the most unexpected revision of all lay in the necessity for extending the testing up to seven months later in order to carry out the curve of forgetting to points of significant drops. For certain pictures it was evident that no fixed duration of time could be counted upon to erase all mental effects. Finally, the talkies suddenly displaced the silent movies after considerable work had been done and complicated the problem of picture analysis. However, the changes necessitated in this connection may be ascribed to "an act of God."

The machinery of transforming the paper plan of research to a working system within the customary framework of school child and motion-picture exhibitors is not to be viewed lightly. The researcher was compelled to gain access to the films in advance of public showing in a community; to appease the theater owners; to finance children's expenditures; to secure parent and teacher coöperation; to bar automatically intergroup discussion of pictures; to gear up personnel in such a way as to extract, in one showing of a film, all the essential points of setting, plot, characters, costumes, incidents, and conversations.

Pictures were viewed in cities earlier in the booking routine or were "previewed" by special arrangement. Theater owners were cheered by the sale of strings of

tickets (which were later dispensed by the researcher). In many cases admission for the children was secured for five cents. A good rapport was established with parents and teachers in the name of scientific inquiry, although few parents had any objection to movie-going. After a night showing children were examined in school early the following morning, before interchange of ideas would be likely to take place. In the matter of film analysis, the plan gradually evolved from the taking down of everything by expert stenographers to an allocation of subject-matter tasks to experienced observers. These observers often saw the picture two or three times before the notes were assembled.

Questions formulated on the basis of these data were later reviewed by the director of the project. The usual methods of determining reliability were employed and all tests were revised in the light of preliminary findings. Multiple response and completion tests were finally adopted, of which the items below are typical:

Multiple response, specific item (Type X)

The actress who played the part of Betty was (1) Dolores Costello, (2) Ruth Chatterton, (3) Evelyn Brent, (4) Greta Garbo, (5) Myrna Loy.

Completion, specific item (Type X)

The money to start the tearoom was furnished by _____.

Multiple response, general item (Type Y)

In England, army officers are usually (1) gentlemen who joined because they needed money; (2) soldiers who were promoted for bravery; (3) soldiers promoted for having been in the army a long time; (4) gentlemen who joined because they liked the life; (5) gentlemen who were forced by the government to join the army.

Multiple-response items were answered by underlining one of the statements; completion items, by writing in the missing word or phrase.

The median reliabilities of the Iowa tests as finally administered varied from .67 to .92. They may be considered satisfactory for short tests designed for group com-

parisons. Attempts to secure valid and reliable essays or reports from the school children proved fruitless. It was shown that laconic "compositions" often concealed an immense amount of actual information which could be elicited by objective testing methods.

In contrast to reliability, there are no "usual" techniques for establishing the validity of a test; that is to say, the extent to which a test really measures what it purports to measure. There were not even precedents in motion-picture material, but the following devices were employed to make test performance mirror the underlying state of affairs:

1. Films were checked in such a way as to ensure a spread of questions over the entire picture.
2. At least three people observed each picture and contributed to the notes.
3. Observers read novels from which the movies had been adapted, together with appropriate works in history and geography. In special fields, university experts were consulted. (These precautions apply to the formulation of "general" or Type Y questions; *i. e.*, content which may conceivably be affected by what is seen in the movies.)
4. The place of the correct answer in multiple response questions was fixed to give a random distribution. "Trick" items were avoided.
5. Items were placed in ten categories on the basis of three judges, as follows: emotional (except fighting, mystery, romance), humorous, mysterious, revue, crime, fighting, romance, drinking, general conversation, general action. Test time in each category was closely related to the corresponding film time.

A consideration of the findings is not in order here. Suffice it to say that the specific knowledge of children and adults is greatly increased by motion pictures and that their general information is significantly affected by what is seen in the pictures. Retention is high over the period of seven months covered in this project.

NOTE: *An article by Professor Frank N. Freeman on the measurement of the effectiveness of a film upon the care of the teeth will appear in the January issue of THE JOURNAL.*

HOW DO MOTION PICTURES AFFECT THE ATTITUDES AND EMOTIONS OF CHILDREN?

THE GALVANIC TECHNIQUE APPLIED TO THE MOTION-PICTURE SITUATION

Christian A. Ruckmick

The intrinsic nature of the emotions is such that they can be analyzed best by a sort of flank attack. Historically, this has been made feasible through the well-known fact that emotions produce concomitant bodily effects which in turn can be recorded and measured. Since physiological conditions also produce these effects and since in some cases the effects may be voluntarily initiated or modified, psychologists recently have been concerned with more and more refined techniques and controlled situations in the laboratory.

In view of the advances made in electrical circuits, these studies have largely centered about changes in electrical resistance which the body offers to small outside currents under a variety of circumstances. In some of these experiments the small amounts of electrical discharges from the body itself also have been measured. Scientists are not yet certain just how these electrical discharges occur: the mechanism of their production is still not clear. We feel, however, that they are due principally to the electrochemical action of the sweat-glands which in turn are tied up with the sympathetic nervous system. We know, too, that they are under voluntary control and we have learned to distinguish the effects produced by certain physiological changes and those that are clearly designated as emotional. In the latter case, the electrical manifestation occurs only after a latent period of from 7 to 10 seconds and the form of the manifestation is characteristically different in terms of intensity from other kinds of electrical discharge. This has a twofold significance:

(1) The fact that it is not under voluntary control as is breathing, for example, eliminates errors initiated by the observer; *i. e.*, he can have no direct control over the amount

of deflection manifested by the galvanometer or other electrical registering device.

(2) The distinction between emotional responses and other bodily processes, especially muscular contractions when made under normal conditions, does away with a traditional error that has vitiated much of the previous work done by way of the so-called method of expression. Of course, the technique is not yet free from the defect that it is very likely influenced in part by concurrent or antecedent physiological changes. Even fatigue, diurnal periodicity, digestive changes, and a score of other conditions may be disturbing factors.

We are at present engaged in determining the effect of some of these uncontrolled items in experiments that have been going on for some years in our laboratory. They have not yet been brought to a satisfactory conclusion but fatigue versus euphoria already show significant indications as conditions which ought to be taken into account in connection with the emotions. The past history of the expressive technique, together with the results that have been obtained by more recent investigators, are putting us on our guard in our present work and we feel that the results obtained in the research herein described are relatively free from errors of this sort.¹

The aim of this particular study was to get some reliable index of emotional disturbances in observers, varying in age from 6 to over 50 years, while viewing motion pictures. All our trained observers and some of the others recorded direct observations describing the type of emotion felt at certain points in the motion picture. But the main emphasis was placed on the amount of galvanometric deflection at various points in the film. We were interested, however, not only in these quantitative results but in psychologizing the whole motion-picture situation. Some

¹C. A. Ruckmick. "Why We Have Emotions," *Scientific Monthly*, 28, 1929, 252-262. (See especially p. 256.)

See also C. A. Ruckmick. "Emotions in Terms of the Galvanometric Technique," *British Journal of Psychology*, 21, 1930, 149-159. Some of the preliminary results concerning extraneous bodily effects, like fatigue, are herein reported. (See p. 154, 159)

of our main conclusions have to do with the perceptual changes that occur at the different age levels. We are convinced that children under twelve years of age not only do not care for certain types of performance but rather do not perceive these events in the story. On the other hand, adults add a certain critical judgment almost continuously throughout their enjoyment, an attitude which is practically missing in the adolescent group. In other words, we have the well-known phenomenon of the genetic development of perceptual processes. In the lower age ranges, the perceptions are more largely those of sensory reference. In the adolescent group, perceptions are rich enough and sufficiently colored emotionally by the higher cognitive processes of reflections, and criticisms are scarce and relatively irrelevant.

There is another point in which this study departs from previous experimental work on the emotions. In general, the stimulus used has been what might be called a stable one. Each type of situation has been discrete and definite or else a fairly simple stimulus, such as an electric shock or attractive color, was applied. In this case we were compelled to use stimuli that were continuously changing. For this reason definite "reading points" were established; *i. e.*, points at which a major episode, likely to arouse an emotion, began. Accordingly, a detailed analysis, taken in part from the accompanying script and in part from stenographic recording of the conversation when no script was available in the theater, was made in advance of the actual showing of the film. These reading points were consecutively numbered and furnished, as it were, the focal places for the comparison of results, both from observer to observer and from content to content. By a simple signal system they were recorded for later identification on the record obtained from the observer.

Centering our attention then on this particular technique, known as the galvanic reflex, and adding records also from changes of heart rate, we experimented for the

first year and a half under the controlled conditions of the laboratory. For some time before this we had developed satisfactory electrical connections to the observer. The first and third finger of the left hand were taped at the first joint with one-half inch adhesive tape and immersed in a normal NaCl solution in an electrode which has non-polarizable qualities, preventing eddy currents which would interfere with the proper reading of the deflection.² Leads from this type of electrode were carried to the Wechsler photographically recording galvanometer³ which was somewhat modified for our needs. This galvanometer also contained a registering device for the heart rate which was obtained through a special very simple apparatus attached to the arm of the observer.⁴ This device was easily and comfortably worn, adjusted so that it did not offer distracting elements during the performance, and the whole situation was taken for granted by the observer. Again, under the conditions of the theater itself we were not able to follow out the research on the heart rate as thoroughly as we should have liked. In the technique of reading the actual pulse rate, there was also some difficulty in determining just where the crest of each successive wave was to be located. But we made two independent readings of those records that were fairly clear and discovered that one observer ran as high as 166 pulsations per minute, several as high as 150, and a large number around 140, the normal rate ranging about 75 to 80. Another point to be considered here is that we did not dare to expose school children to extremely violent or objectionable films which might have given us much higher rates and many more of them. It must be recalled that school children do very often attend pictures of this extreme sort.

All of our records were taken on Eastman photographic

²C. A. Ruckmick and E. Patterson, "A Simple Non-polarizing Electrode," *American Journal of Psychology*, 41, 1929, 120-121.

³Listed and illustrated in the general catalogue of the C. H. Stoelting Co. under No. 24201.

⁴W. H. Grubbs and C. A. Ruckmick, "An Electrical Pneumograph," *American Journal of Psychology*, 44, 1932, 180-181. Since this article was prepared a more compact and efficient form has been developed.

film (No. 122), which was mounted inside the Wechsler apparatus and which moved continuously past the recording instrument. When developed it showed a time line in half-seconds, a signal line operated by the experimenter, a galvanometer line giving deflections, and in some of our experiments a record of the heartbeat and breathing. While in many instances the breathing record was photographed, it was not reliable enough for accurate reading. Altogether, some 755 records were made, of which 180 represented results obtained under actual theater conditions.

The laboratory experiments gave us an opportunity also to perfect our technique so that when arrangements were finally made with representative theaters no time would be lost and no disruption would occur. Both in the laboratory and in the theater we were careful to establish normal conditions by getting into rapport with the observers. In most cases the experimental conditions were overlooked by the observer and the picture film was as genuinely enjoyed as under everyday conditions. At the end of the performance the observers were asked such questions as, "What were the exciting parts?" and "How did you like the love scenes?"

Two fifteen-minute exposures were shown to each observer on a single day. Where the picture has two parts these were consecutively shown. The titles of the laboratory picture on 16 mm. film were *Hop to It*, *Bell Hop*, *The Iron Mule*, and *The Feast of Ishtar* (taken from *The Wanderer*). The first is a slapstick comedy with many pseudo-tragic incidents and violent points of physical conflict between the characters. The second depicts humorous events in early railroading, grossly exaggerated with plenty of amusing scenes regarding the train equipment and exciting scenes during an Indian attack. The last features extravagant scenes of oriental luxury, some debauchery, and occasional love-making. Female figures scantily clad, kissing scenes, and Oriental dancing occur throughout.

Four commercial films were selected in the theaters. *Charlie Chan's Chance* is a Scotland Yard detective story featuring police activities, in connection with Oriental characters, and dancing scenes. *The Yellow Ticket* is an exciting series of episodes with scenes laid in Russia and with an attractive Jewish girl as its principal character. Her experiences in obtaining the yellow ticket, a license for prostituting, and her wanderings to a prison, combined with approaches made by men in high authority, constitute a series of thrilling adventures. *The Road to Singapore* contains a number of romantic episodes and dramatic incidents centering around love affairs and intriguing situations which lead to considerable excitement. Some of the scenes are highly suggestive. *His Woman* is laid on shipboard largely, with brawling episodes and flirtations. The main theme centers about a baby who is found in a rowboat, and Sally, on board with a crew of men, who becomes nurse for the baby. After a number of scenes the captain finally marries Sally.

The records taken in the laboratory were from observers obtained in Iowa City largely through the schools, members of the faculty, and friends. Because the patience of the local theatrical managers was exhausted by other researches done here, we had to go to Davenport, Cedar Rapids, and Clinton, Iowa, for new material. In these cities school superintendents, principals, and parents co-operated whole-heartedly with us and managers of large theaters were very generous in their arrangements. In these theaters a seat was prepared, usually in the balcony, but in one case on the ground floor, and the observer saw the pictures at the regularly scheduled performance. A remote position was taken so as not to disturb the remaining spectators. The experimenter sat near the observer and communicated through a signal system to his assistant who was in control of the recording apparatus set up some distance away. No systematic attempt was made to secure direct reports of experiences from the observers in the the-

ater because the physical conditions surrounding the performance would not permit this kind of disturbance.

From the point of view of methodology, this will afford a concise description of the application of well-known laboratory techniques to the concrete situation of a theatrical performance. Since the purpose of these articles is not to give results but only aims and methods, we have withheld for the most part, the definite conclusions which were reached. They show, however, that our methods of approach were quite adequate and, with all due conservative considerations, came out with very tangible results which have already been cited.⁵

MEASURING THE INFLUENCE OF MOTION-PICTURE ATTENDANCE ON CONDUCT AND ATTITUDES

Frank K. Shuttleworth

Out of one hundred children in the junior high schools of large urban centers approximately twenty-seven attend the movies two or more times a week. Seven go three or more times and two go four or more times a week. What are the movies doing to the conduct and attitudes of these children?

When this question was originally raised by the Motion Picture Research Council, the experimentalists at once proposed the following procedure: First, select two large groups of children alike in as many respects as possible, one to act as a control and the other as an experimental group. Second, measure both groups by some objective test of conduct or attitude. Third, subject the experimental group to a motion picture which contains promise of influencing the measured conduct or attitude. Fourth, re-measure both groups and see if the scores of the experimental group have changed more than could be accounted for by chance. The studies by Thurstone of the influence

⁵*McCall's Magazine*, September and October, 1932.

of specific movies on specific attitudes constitute an excellent example of the precision of this approach. Given adequate tests and care in handling the actual execution of the experiments, it is obvious that the results are clear and unambiguous: exposure to specific movies either does or does not change specific attitudes.

It was equally obvious, however, that such an approach would fall short of meeting the real issue. The complaint against the movies is not that specific films influence specific conducts and attitudes, but rather that the general run of movies has a generally unfavorable influence. To test the influence of the general run or of a random sample of movies is something very different from testing the influence of a specific movie which has been selected primarily because it promised to exert a certain influence. Further, to measure generally unfavorable or favorable influences would require an enormous range of tests in a field where adequate tests are few and far between. The study conducted by Professor Mark May and the writer was an attempt, in part, to solve these difficulties.

Our procedure involved three steps. First, the selection of groups of children who go to movies frequently and groups who go infrequently. Second, the equating of these selected groups for as many other factors as possible. Third, the comparison of the selected frequent and infrequent movie attenders on a wide variety of tests of conduct and attitude. All told 516 frequent and 543 infrequent movie-goers were selected for study from among nearly 6,000 children in grades five to nine. These selections were based on the children's own report of their movie habits. The reliability of these reports is at least .60 and possibly .70. Throughout, the two groups were equated for sex, age, school grade, intelligence, and socio-economic educational home backgrounds. The first comparisons between movie- and nonmovie-goers employed the conduct, reputation, moral knowledge, and attitude test-data collected by the Character Education In-

quiry.¹ Here 102 frequent and 101 infrequent movie attenders selected from among nearly one thousand children were studied intensively. Specially constructed attitude tests were given to 106 movie- and 102 nonmovie-goers and a revision of these tests was given to 308 movie- and 340 nonmovie-goers under conditions which led the children to believe that their responses were anonymous. The revised attitude tests contained 343 test elements which were designed to measure the influence of seventy-one carefully defined attitudes. The test elements consisted of true-false statements, multiple-choice questions, and a wide variety of other devices for eliciting attitudes. The evidence is that children's responses to such questions are to a substantial degree their own independent answers. The analysis of the attitude tests was in terms of the individual test elements. While the reliability of a single test question is not high, averaging only .34, several questions were directed towards each attitude, large numbers of children were involved, and the contrasts between the movie and nonmovie children are extreme.

These procedures yield about a hundred reliable or nearly reliable differences between frequent and infrequent movie attenders which may be grouped into thirty-seven tendencies. With few exceptions the frequent movie-goers make a poorer showing on the conduct tests and display less desirable attitudes than do the nonmovie-goers. The nature of the differences, however, makes it very doubtful whether they can be attributed with any assurance to the influence of the movies. Only four of the thirty-seven tendencies can be traced directly to the movies, while twenty-four may be attributed in part to selective factors. For example, the movie children tend to affirm while the non-movie children tend to deny the following statements: Most policemen torture and mistreat those suspected of crime; few criminals escape their just punishment; most

¹Hugh Hartshorne and Mark A. May, *Studies in Deceit*, 1928; *Studies in Service and Self Control*, 1929; and *Studies in the Organization of Character*, 1930. New York: The Macmillan Company.

Spaniards are impractical, romantic, and love makers; few Russians are kind and generous. Examples of differences which are probably due in part to selective factors are the following: Movie children receive poorer deportment and scholastic marks and are less interested in school; they are less coöperative, less emotionally stable, less honest in school situations while equally honest out of school; they are more interested in cheap reading, in dances, in a thrill, and in fine clothes; they appear to lack inner resources for keeping themselves busy and entertained. Such children would naturally gravitate to the movies. On the other hand, children who are interested in their school work, who are practical and serious minded, and who are busy with other activities simply do not care about the movies. We fully anticipated that such selective factors would be involved. The point of these examples, however, is that diligent search for differences which could be attributed to the movies was meagerly rewarded, while a systematic study of the data of the Character Education Inquiry in which we hardly expected to find differences has revealed many which appear to be due to selection. Instead of measuring the influence of the movies, our results serve almost as well to define the characteristics of children who are attracted by the movies. Probably excessive movie attendance serves to stimulate and aggravate these characteristics, but whether this factor or the factor of selection is more important cannot be determined.

THE EFFECT OF MOTION PICTURES ON THE SOCIAL ATTITUDES OF HIGH-SCHOOL CHILDREN¹

William H. Short

The experiments were carried on to study the effect of motion pictures on the social attitudes of children. The effect of a motion picture on attitude towards nationality, race, crime, war, capital punishment, prohibition, and the punishment of criminals has been studied.

Briefly, the procedure has been to measure the attitude of a group of students by means of an attitude scale or a paired comparison schedule, to show the group a motion picture which has been judged as having effective value on the issue in question, and to measure the attitude of the group again the day after the picture has been shown.

It is quite obvious that a suitable motion picture is the first essential of such an experiment. A suitable picture is one which pertains definitely to some issue such as those enumerated above; secondly, it is one which we can ask high-school superintendents to send their students to see; and thirdly, the picture must be fairly recent and well made so that children will not be distracted by the fashions and photography of the picture. Suggestions of possible films were obtained from a number of sources. The pictures we have used have been chosen by reviewing between six and eight hundred films. By reviewing that number we do not mean to imply that we have seen all of them, but press sheets, which include the advertising copy and synopses of the film, have been obtained from the motion-picture distributors. These synopses are not for publication but are intended to give the exhibitors a fairly good idea of the picture. Consequently they were quite serviceable to us. The pictures which appeared from the synopses

¹This article was prepared by Mr. William H. Short from a more extensive report on the same subject by Miss Ruth C. Peterson and Dr. L. L. Thurstone. The article is largely quoted from this report.

to have possibilities for use in the experiments were seen by a committee of three or four. By this process, films were chosen which seemed to satisfy the criteria given.

The second essential is an instrument for measuring attitude. The paired comparison schedule or attitude scale used in each experiment is given in the report of that experiment. The paired comparison schedules used to measure attitude towards nationality and crime, and four of the attitude scales used were constructed especially for these experiments. The scales which were available and which were suitable for use with the motion pictures chosen were used by permission of the authors.

One of the projects undertaken was the construction of a scale of attitudes towards the motion pictures. We select this to describe the method of constructing an attitude scale.

A collection of opinions about the movies was made, consisting of two hundred fifty-eight statements. These opinions, each of which reflects an attitude towards the movies, vary from statements decidedly in favor of the movies through neutral statements to those very much opposed to the movies. They were obtained from literature on the subject, from conversation, and from direct questioning of subjects whose education and experience varied from that of seventh-grade children to that of graduate students in the university.

Each statement was then typewritten on a separate card. As a preliminary method of eliminating the most unsatisfactory and retaining the best statements as well as to get an approximate idea of the scale values of the statements, the method of equal-appearing intervals was used with a small group of sorters. Twenty-five people, who had some understanding of the method being used and who were carefully chosen to make sure that the directions would be thoroughly understood and complied with, sorted the cards into eleven piles according to the following instructions:

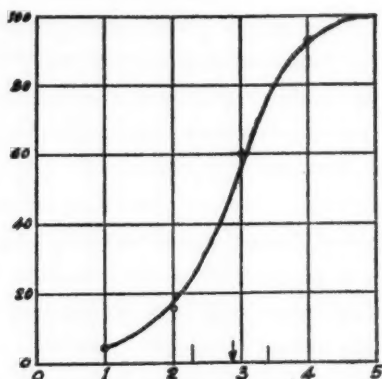
These cards contain statements about the value of the movies. Please arrange these cards in eleven piles so that those expressing attitudes most strongly in favor of the movies are in pile one, those which are neutral are in pile six, and those which are most strongly against the movies are in the eleventh pile. The intermediate piles should represent steps in appreciation or depreciation of the movies.

Do not try to get the same number of cards in each pile. They are not evenly distributed.

The numbers on the cards are code numbers and have nothing to do with the arrangement in piles.

You will find it easier to sort them if you look over a number of the slips, chosen at random, before you begin to sort.

The results of these twenty-five sortings were tabulated to show in which piles each statement was placed by the group of sorters. The scale values were then determined graphically. As an example of the method used one of the graphs is reproduced below.



Statement Number 101, "Movies increase one's appreciation of beauty."

$$Q_1 = 2.25$$

$$M = 2.90$$

$$Q_3 = 3.45$$

$$Q = 1.20$$

The figure represents statement number 101 of the original group which happens to be retained in the final scale as number 12. The graph shows that all the sorters classified the statement as favorable to the movies. The statement reads, "Movies increase one's appreciation of

beauty." The curve crosses the 50 per cent level at the value of 2.9. This scale value is such that half the readers classified it as more favorable to movies and half of them as less favorable.

The scale value is indicated by the arrow head on the base line. The lighter lines on either side of the arrow head indicate the quartile range of values assigned to the statements. The Q-value in this case is 1.10. This is a measure of the ambiguity of the statement.

For the application of a more exact scaling technique one hundred statements were chosen from the two hundred and fifty-eight. The choice was based on the following criteria:

1. A continuity of scale values; *i. e.*, a selection of approximately the same number from each region of the scale

2. Selection of statements with small Q-values

3. Diction and clearness of the statement itself

The average Q-value of the statements retained was 1.18 with a range of .40 to 1.90; while the average Q-value of those statements not retained was 1.44 with a range of .50 to 3.25.

Two hundred sets of these one hundred statements were then printed on three by five cards.

The one hundred statements were then arranged in ten envelopes for rank order sortings. The first envelope contained the fifteen statements most strongly in favor of the movies as determined by the preliminary scaling method. The second envelope contained statements 8 to 22, the third envelope 18 to 32, and so on, the tenth envelope containing statements 86 to 100. Thus it is seen that fifty of the one hundred statements were repeated in two envelopes.

The statements in each envelope were in random order and the envelopes were also put in random order. The ten envelopes of statements were presented to the people who were to sort them with the following directions:

Each envelope in this series contains fifteen cards. On each card is a statement about the movies. Some of these statements are in favor of the movies, and some of them are against the movies. Will you arrange the fifteen statements in each envelope so that the statement which is most in favor of the movies is on top, face up, and the statement which is least in favor of the movies or most strongly against the movies is on the bottom. The cards should all be arranged so that each card is more in favor of the movies than the card under it and less in favor of the movies than the card above it.

In considering each statement ask yourself this question:

How strongly in favor of the movies is a person who endorses or agrees with this statement? Try to disregard your own attitude towards the statements.

The identification numbers on the cards have no significance.

Two hundred people sorted the statements according to the above directions, putting the fifteen statements in each envelope in rank order.

The results of these sortings were tabulated, and from the tabulations we determined the proportion of times each statement was rated as more strongly in favor of the movies than every other statement. From these proportions the scale separations of the statements in each envelope were determined from the formula

$$\frac{b-a = \frac{EX - EX}{ka \quad kb}}{n}$$

in which $(b-a)$ is the scale separation between a and b .

Xka is the deviation $(k-a)$ in terms of the standard deviation. It is ascertained from the probability tables by means of the observed proportions $k > a$.

Xkb is the deviation $(k-b)$ in terms of the standard deviation.

n is the number of statements minus one.

Since there were overlapping statements in each adjacent pair of envelopes, the scale separations for the whole set of one hundred statements could be calculated. The final scale values of the one hundred statements ranged from 4.74, the most strongly in favor of the movies, to 0.00, the most strongly against the movies.

The one hundred statements were then divided into ten groups, with a range of .5 scale step in each group. Subsequently four statements were selected from each group, arriving at a final attitude scale consisting of forty statements approximately evenly spaced on the scale.

In scoring the attitude scale we cannot say that one score is better or worse than another; we can only say that one person's attitude towards the movies is more or less favorable than another person's. It is purely arbitrary that attitudes unfavorable to the movies have lower scale values than favorable attitudes.

Any individual's attitude is measured by the median scale value of all the statements he checks. The person who has the higher score is more favorably inclined towards the movies than the person with a lower score.

For the purpose of comparing groups, the distributions of attitudes in each group can be plotted and it can then be said whether and how much one group is more favorable to the movies than another group.

The experimental groups vary in age and grade range, including children of the fourth to the eighth grades, high-school students, and in one experiment, college students. These groups were available through the coöperation of the principals and superintendents of the schools.

The general plan of the experiments was as follows: A scale of attitude was given in the school. After the scale was given the students were told that the scale would be given again after an interval of about two weeks. No direct connection was made between the application of the attitude scale and the presentation of the film. The interval between the first application of the scale and the motion picture varied slightly, but was in general about two weeks. Tickets which were printed especially were distributed in the school the day the film was shown; these tickets were signed by the students and presented for admittance to the theater. By this means, it was possible to have an accurate record of those attending the picture. Only the stu-

dents who took the attitude scale before and after and attended the showing of the film were included in the experimental group. The scale of attitude was given in the school the morning following the presentation of the motion picture.

The experiments include studies of the effect of a single motion picture, on attitudes, the cumulative effect of two or more pictures pertaining to the same issue, the difference in the effect of a motion picture on different age groups and the persistence of the effect of a motion picture.

SLEEP MOTILITY AS AN INDEX OF MOTION-PICTURE INFLUENCE

Samuel Renshaw¹

Inertia is a property of certain aspects of human conduct just as it is a property of mass. Change of environment or occupation is often not enough to stop a process originating from some strong impression, particularly if that impression has been developed to a sort of climax, if it is colored by strong feelings, and if it has engaged the neuromuscular system for a duration that is greater than a certain minimum. It is a common observation that sleep frequently refuses to come after two hours or more spent in some intensive form of work or play which fits most or all of the above specifications. If it could be shown that the context of a motion-picture program is followed by an alteration of the normal dormition or characteristic motility pattern of a child, then sleep motility would afford one method of indicating the nature and extent of the differential effect of various kinds of motion pictures.

It must be borne in mind that a suitable apparatus and technique must be developed so that we may be sure that

¹Collaborating in the conduct of the experiments, the development of the methods, the computation of the data, etc., were Drs. Vernon L. Miller and Dorothy P. Marquis who held Payne Fund Fellowships, and Mrs. Eleanor H. Martin, research assistant.

the effect is not an artifact from some other source. We must alter our method in the light of what experimental experience teaches until we are able to meet, with data capable of answering, all the objections which might fairly be aimed at whatever conclusions seem justifiable from the work. Concretely, we did not know in the beginning of the work what the normal sleep motility pattern was for children of various ages, for both sexes, whether the sexes differed sufficiently to take stock of it, whether diet, season of the year, diurnal activities, childish emotional upsets, etc., would alter the picture. We had to determine by experiment the facts that there are age, sex, and seasonal differences; that each child must serve as his own norm or control; and that to secure a sufficient sampling we must multiply experiments on relatively small groups and thus gain the advantages of checking long-section trends (as the season of the year, etc.). At the same time this procedure gave greater statistical reliability to the obtained figures.

No previous quantitative work had been done on children's sleep motility in the age range of six to eighteen years. No studies had previously sought to use measurements of sleep motility as an indirect method of determining the relative effects of different films upon different children. Those who are familiar with research will readily appreciate the many difficulties where one must shape his tools while he is using them. We had to make each separate experiment yield both cross and longitudinal section results.

Immediately the question arose: Where should we get children for our subjects? For our purposes it was necessary to have access to children where we could have control over diet, work and play activities, hours of retiring, etc. We needed also as complete medical, family, and scholastic histories as possible. It is at once clear that we could not use children at home, for several reasons. What we needed, it seemed, was some sort of an institution which yet was not an institution. This we found,

thanks to the very helpful interest and coöperation of the Ohio State Bureau of Juvenile Research and its staff. There we had at hand children of both sexes of all ages from six to eighteen; we had the needed medical, psychological, and social resources, we had the children living in a regular routine of controlled diet, regular hours for eating, sleeping, bathing, play, study, small duties, etc., which was as nearly ideal as we could hope to have for the purposes of our studies. This distribution of the I.Q.'s of the 170 children who took part in our experiments was about that to be found in any average school population. The children knew they were resident at the Bureau for not more than 90 days—a period of observation and diagnosis preliminary to placement or being sent home. The Bureau is in no sense a custodial institution.

Our apparatus consisted of a polygraph, which is a paper tape recording device, driven by a synchronous motor and carrying 20 pens, each pen being moved magnetically through a circuit from a small device, called a hypnograph, mounted below the springs of each child's bed. The device was so arranged that any shift in the posture of the sleeper would interrupt the flow of current in the circuit and indite upon the tape a mark which indicated the number of breaker points which passed a fixed brush as a result of the movement. While separate movements could be differentiated with respect to magnitude, we found that it was sufficient to regard each minute of the night as an active minute if any movement occurred within that minute. A magnetic device printed a line across the tape each minute during the stay in bed. All these children retired at 9 and arose at 6.

We established the fact that under our conditions 15 successive nights were sufficient to give a stable norm for each child, particularly if the children were given the same bed each night and were permitted to sleep in the beds from three to five nights before any records were taken. They were told very little about the experiments except that they

were to go right to sleep as they would naturally, and that by good coöperation they would be rewarded by some visits to the movies. The novelty wore off in a few days and no difference was noted by the assistant, in constant nightly attendance and observation, between the sleep patterns of those who knew they were sleeping in beds that recorded their movements from those children brought in new and unaware for the first few days of the experiment.

After the "normal" sleep series of 15 or more nights the children were taken to a neighborhood theater, two blocks from the Bureau, between the hours of 6.45 and 8.45 p. m. Ten different experimental groups of children, 10 to 20 in number, were taken to see from 1 to as many as 15 shows consisting of the usual newsreels, comedies, and feature pictures. These varied from the wild west to the most sophisticated dramas. The children were back and made ready for bed at 9 p. m. Our aim was to keep the movie impression as nearly like the ordinary attendance of an ordinary child as possible.

Following the movie series, a second series of "normal" nights' records were taken. Thus each experimental group slept in the beds about 50 consecutive nights. About 170 different children were used in ten experiments, during which time various groups saw 58 different motion pictures.

From the data thus secured we were able to compare the "normal" sleep pattern with that on the nights movies were seen in the evening before retiring, and the first "normal" series could be checked against the post-movie series.

Each group of children was carefully selected so as to secure 10 boys and 10 girls distributed over the age range, and so selected that about all degrees of brightness would be represented.

Several additional experiments were made. Two groups of children participated in two experimental insomnia series, during which the customary sleep ration was reduced from nine hours to six, first by late retiring (midnight) and arising at 6, and again by early rising (starting the new

day at 3 a. m. and retiring at 9 p. m.). Two groups were given coffee and a well-known decaffeinated coffee with the evening meal and again a half hour before retiring and in another part of the work at both times, and the effect noted. Another group was taken for an automobile ride through the city, permitting the children to window shop, etc., for two hours at the same time as the film attendance. In all cases effort was made to keep the daily activities, the health, the diet, etc., as uniform as possible. Special study was made of the records of all children who became ill and were forced to sleep in the hospital during the course of treatment. We used these records to find out if the sleep pattern would show a change before the child showed any overt symptoms of the oncoming illness, such as fever, headache, sore throat, etc. Special study was made by Dr. Miller of the limens of critical frequency for visual flicker in about a hundred cases. These measurements were made in order to ascertain what changes in the reactance of the eye were observable in varying stages of fatigue, and to determine whether pure visual flicker could possibly serve to produce nervousness or restlessness in the children. With all these data we were in position to differentiate the influence of the movie from other controlled variations. The analysis of the large amount of data collected in these experiments furnished us with a large number of new facts which could only be obtained because the methods we used made the intercomparisons from which they were derived possible.

Restful, recuperative sleep is a prime necessity for normal growth and development. The sleep pattern is a rather sensitive indicator of the effect of fatigue-inducing agents. Physiologically fatigue is a form of oxygen starvation, of intoxication. We believe that the apparatus and the methods developed in the course of these studies have many possibilities for use on similar and related problems which have a definite social and hygienic bearing.²

²A more complete appreciation of some of these and a more satisfactory understanding of the methods can be had from a study of the results of the work, which will be made available about January 1, 1933, by the Payne Fund and the Motion Picture Research Council in a volume, *Children's Sleep*, to be issued by Macmillan.

HOW DO MOTION PICTURES AFFECT THE CONDUCT OF CHILDREN?

METHODS EMPLOYED IN "MOVIES AND CONDUCT"¹
AND "MOVIES, DELINQUENCY, AND CRIME"²

Philip M. Hauser

In seeking to throw light on the general problems as to how the conduct of a normal, delinquent, or criminal character is influenced by motion pictures, the personal accounts by individuals of their own experiences were, in the main, relied upon. While it was recognized that more sophisticated techniques of research are available and are of great value for studying many types of problems, the authors felt these methods, although more generally accepted as "scientific" in character, would prove of comparatively little value in furnishing insights on the particular problems with which they were concerned. These studies assume, then, that personal accounts of experience, if secured under satisfactory conditions and interpreted with caution and judgment, are a quite adequate basis for describing and generalizing upon various phases of human conduct.

THE COLLECTION OF MATERIALS

The utmost care and attention were devoted to gaining full coöperation from contributors. For this purpose it was necessary to build up rapport. A very frank statement of the purpose of the investigation was always made so as to avoid the suspicion that the investigator was trying to "get something" on the contributor. Various types of appeals for honest coöperation were resorted to in keeping with the character of the persons being approached. The anonymity of the documents was stressed and, when possible,³ schemes devised to ensure perfect privacy to the contributors in describing intimate and confidential experiences.

Motives for coöperation were furnished where neces-

¹By Herbert Blumer.

²By Blumer and Hauser.

³See page 232 for footnote.

sary or possible and their nature varied with the groups. Students, for instance, were motivated to write full accounts because their papers were graded and credit was received for them. Incarcerated delinquents or criminals occasionally were more eager to coöperate because of small favors, such as bringing them library books, furnishing them with cigarettes, etc., that were rendered them.⁴

It should be remembered, however, that in the cases of many persons no further motivation than the opportunity to relate their experience is necessary. The "stranger" relationship,⁵ existing between investigator and subject, frequently was an important factor in the securing of full and reliable life histories; and in the institutional situation in which most of the materials for the delinquency and crime study were secured, the writing of a motion-picture autobiography was frequently welcomed by the inmates as a dual opportunity to give vent to pent-up feelings and confide in some one, and to break the monotony of institutional life.

TYPES OF PERSONAL ACCOUNTS

The specific motion-picture life history, the personal interview, accounts of conversations on motion pictures, and questionnaires are the various types of personal accounts employed in these studies.

The specific motion-picture life history differs from a general autobiographical account in that the narration by the individual of his experiences is limited to a description of his behavior centering around the motion pictures. From

⁴Professor Blumer devised the following scheme and used it with considerable success in securing documents from students.

"The students of a class chose a small committee of their own who assigned to each student in the class a code number. To prevent the teacher from identifying the author of the documents, they were turned in under their code numbers. The teacher gave credit to those documents which showed signs of having been seriously written, turned back to the committee a list of the code numbers with the accompanying credit given, and received from the committee a list of the names of the students with the credit given. In this way the committee alone knew the names of the students corresponding to the code numbers, yet the committee had no opportunity to read the papers. Each document came to the teacher as anonymous, yet each student received credit for his or her work." Blumer, *Mores and Conduct*, p. 7 (MS).

⁵The possibility of too much motivation resulting in the "dressing up" of documents was borne in mind and this problem will be dealt with in the section on devices and safeguards for ensuring reliability.

⁶See Simmel, "The Sociological Significance of the 'Stranger,'" Park and Burgess, *Introduction to the Science of Sociology* (Chicago: The University of Chicago Press, 1924), p. 322.

preliminary exploratory documents which were received recurrent experiences were itemized and used as a basis for the construction of guidance sheets submitted to later contributors. It is important to note, however, that the writers of the documents were not rigidly bound by the guidance sheet form which was suggestive rather than limiting in its character.

This restricted type of life history was used for two main reasons. In the first place, through focusing the attention of the writer on that sector of his experience in which the investigators were interested, a fuller and more valuable account was secured without great loss of spontaneity or freedom in the narration; and secondly, the full materials in a large number of documents made possible the statistical tabulation of recurrent experiences.⁶ Through this type of specific life history it was possible to gather mass data and itemize recurrent experiences in a way the general autobiography does not ordinarily permit.

Personal interviews were conducted, in most cases, as follow-ups on motion-picture life histories. These interviews were usually an hour to an hour and a half in length, and a full stenographic account was taken. The subject had full knowledge of the presence of the stenographer who, however, was placed at some point behind the subject so as to be out of his range of vision. The interview frequently took the form of a free exchange of experiences, the interviewer talking of his own experiences as a means of inducing the subject to talk freely of his. Since no fixed set of questions was followed, this material secured does not lend itself to statistical tabulation. It has proved quite valuable, however, for illuminating the more intimate effects of motion pictures.

Another method of securing information used mainly in *Movies and Conduct* was the collection of conversations

⁶These statistical tabulations, since they are based only on overt statements appearing in the accounts, represent a minimum statement of the frequency of given types of influence. The failure of the writer to mention given influences does not necessarily mean they have not appeared in the behavior of the person.

on the subject of motion pictures. These accounts, wherever possible recorded immediately after the conversation in order to assure reports as nearly verbatim as possible, were almost always secured by participants of the groups engaged in the conversations. The purpose of this form of investigation was to secure as natural a picture as possible of the kind of conversation which ordinarily goes on concerning motion pictures. It was felt the content of these conversations would in some sense reflect interests and attitudes and could serve also to show how, through such discussions, an individual may be led to particular interpretations of motion pictures.

Ordinarily these accounts were collected by individuals working in pairs and seeking in this fashion to supplement each other. The reporters were instructed not to give any intimation to their groups that they were engaged in recording the conversations which went on. This precaution was taken in order to prevent the introduction of artifice into the remarks of the group.

Finally, in addition to the use of the motion-picture autobiographies supplemented by interviews and accounts of conversations, a considerable amount of material was collected through the use of direct questionnaires. These schedules, in the main, were devised on the basis of recurring items of experience discovered in the motion-picture life histories. They were employed largely to ascertain approximately what proportions of given populations were influenced in given ways and the tabulated results were inserted into the reports only when the life-history materials clearly showed the presence of given types of motion-picture influences in the experiences of individuals.

RELIABILITY OF ACCOUNTS

Questions invariably arise as to the truthfulness and reliability of personal accounts of experience. In these studies great care was taken to give the contributor no reason or opportunity to falsify his document, and several ways of checking reliability were employed.

When the subject was first approached special effort was made to impress him with the impartial character of the investigation. He was specifically told the interviewers were not interested in either tracing or denying a relationship between the motion pictures and various forms of conduct of a normal, delinquent, or criminal type, as the case might be. The contributor was asked to present as honestly as possible only those motion-picture experiences he could trace with confidence. They, in the main, had no more reason to affirm than to deny motion-picture influences. This is substantiated by the fact that a large part of the materials collected were of a negative nature. Moreover, the contributor was asked to describe in great detail specific incidents, episodes, or experiences of a concrete character. Only the narration of these specific instances of behavior was regarded as factual in these studies. General expressions of opinion or judgment were not regarded as data and were presented only for what they might be worth.

Several checks on the reliability of the accounts were employed in these studies. In the first place, it was possible in a number of cases to compare the document written by the individual with the statement of his experiences secured later through personal interview. At the time of writing their documents, the subjects had no intimation of the possibility of a subsequent interview covering their motion-picture experiences. It is assumed that the interval of six months elapsing between the two was sufficient for the individual to forget any fictitious or false incidents which he may have given in the autobiography. In no instance was there discovered any discrepancy of importance between the experiences related in the document and those in the interview.

The accounts were also checked for internal consistency. In a few, numbering less than twenty, there was evidence of contradiction in the experience given. These documents, accordingly, were not used in these studies. All of the

remaining accounts, as far as could be determined by careful scrutiny, were internally consistent.

The chief means of checking the reliability of the experiences given in the written documents was in comparison of document with document. The motion-picture autobiographies were written independently by persons of different schools, factories, and penal and correctional institutions. There was little possibility for the exchange of experiences. The comparison of large numbers of documents coming from different groups of people with no knowledge of each other made it possible to ascertain the general run of experiences. The contents of the documents coming from different sources yielded substantially the same general kind of experiences. This massing of experiences on a number of outstanding facts seems to point to the reliability of the accounts.

Still another source of verification is the comparison of the content of the motion-picture autobiographies with the content of motion-picture conversations collected from other groups of people. Since these conversations, recorded verbatim as far as possible, were collected in natural and naïve situations, the consistency between them and the autobiographical materials strongly suggests the accuracy of both.

The questionnaire data were verified in the sense that only those statistical tabulations were presented to which the autobiographical materials seemed to give credence; that is, only those instances of behavior where the life-history accounts indicated clearly the existence and nature of given types of motion-picture influence. In using the schedule data as supplemental to the autobiographical documents in this way, these types of materials also tended to corroborate one another.

Finally, where possible, as in the case of inmates of penal and correctional institutions, behavior presented in the accounts was checked with official records and no instances of appreciable discrepancies were found.

INTERPRETATION OF THE MATERIALS

Finally, the materials presented in these studies give a conservative statement of the motion-picture influences. Cumulative or unconscious influences of the movies were not considered in these studies, but that they are to be found and that they are significant is clear. Intimations of these influences appear time and again. Many delinquents and criminals, for instance, will deny that the "movies" have influenced them in their delinquent or criminal careers, but admit and give instances of desires or behavior, in large part to be attributed to the motion pictures, that are ordinarily associated with delinquent or criminal patterns of conduct. Thus, the proportion of offenders that indicate the movies gave them the desire to own and carry a gun is much greater than the number who acknowledge they committed robberies because of cinema influences. Because of these considerations and because of the tendency of contributors to withhold rather than exaggerate motion-picture influences, these reports must be regarded as an understatement rather than an exaggerated account, and as understatements they perhaps better fulfill their exploratory mission.

THE SOCIAL ROLE OF MOTION PICTURES IN AN INTERSTITIAL AREA

Paul G. Cressey

The motion-picture project of the Boys' Club Study¹ was first conceived by Dr. Frederic M. Thrasher, director of the Boys' Club Study and of the motion-picture project, as presenting an excellent opportunity for a unique study of the influence of motion pictures upon behavior problems. The project was undertaken primarily because it would be significant to determine the rôle of motion pictures and motion-picture theaters in a delinquency area of a single community where the interrelationships of movies to other influences and to the whole community complex could be investigated. Thus it would be possible to avoid some of the fallacies of a segmental approach to an institution which can best be understood by studying its patrons in their intimate social backgrounds.

The fact that the community chosen for study was an urban area, parts of which were characterized by relatively high delinquency rates, offered an excellent opportunity for a specific study of the influence of motion pictures upon truancy and delinquency. More important, however, was the fact that the area available for the study was a district served by one of the boys' club units which was to be investigated most intensively.² The focusing of both studies in the same area made available to the motion-picture project a vast mass of pertinent data concerning juvenile motion-picture patrons and all phases of community life which otherwise would have been unavailable without prohibitive expenditures.

The motion-picture project at New York University,

¹The whole of the September issue of *THE JOURNAL* was devoted to the methods of the Boys' Club Study of New York University. An article on "Related and Subsidiary Studies" appeared in the November issue. The Boys' Club Study of New York University was financed by a gift of \$37,500 by the Bureau of Social Hygiene. The motion-picture project of the Boys' Club Study was financed separately by the Payne Fund.

²By the Boys' Club Study of New York University.

therefore, has certain essential characteristics which distinguish it from others in the series. As has already been stated, it is, in the first place, focused upon an area about which there is already available a vast amount of data, including information regarding boy life in the district, the institutional opportunities for play and recreation, informal play life and gang activities, as well as detailed factual data about thousands of individual boys.

Secondly, it is possible, perhaps, for the first time in motion-picture research, to study the child in his natural setting. Instead of considering him apart from the social world of which he is a part, an attempt is being made to study him and his picture habits and attitudes as a part of his normal social world. He is not scrutinized *in vacuo* but is seen as a dynamic personality interacting with the host of influences and social forces which constitute his normal social *milieu*.

Thirdly, the methodological difficulties of a complex problem often arising through an emphasis upon but one or two approaches are in part obviated through a multiplicity of methods. At least twenty different methods or techniques have been used in this project. The validity of inferences from any one or two approaches is thus tested by these other methods.

It is also significant, in the fourth place, that the New York University study is focused upon overt behavior as well as upon attitudes. Research is thus able to proceed upon the basis of objective facts; *i. e.*, the delinquency record and similar data regarding overt behavior. The study of social attitudes, conceptions of life, and philosophies of life occupies a significant place in this research, to be sure, but the inferences which can be drawn from a study of attitudes are supplemented by data on overt behavior.

Finally, it is a basic premise of this project that the research sociologist in his study and use of individual cases can well afford to avail himself of the techniques and skills of other experts, especially those of the psychologist, the

psychiatrist, and the physician. Representing distinctly different training, approaches, and premises, these specialists are able to supply not only much additional insight of value in individual case studies, but also the means for discriminating in part between the atypical case due to hereditary physiological or mental factors and the one which would seem to represent more clearly sociological forces.³ Efforts were made in this study to correlate the work of psychiatrists and physicians wherever possible; and psychological tests were made available⁴ for individuals upon whose case records primary emphasis was placed.

The methods used in this study represent statistical, ecological, and case-study techniques. Through the use of the Hollerith technique⁵ the frequency of motion-picture attendance for a large number of boys living in the area of special study is being related to delinquency records, membership in the boys' club and other recreational institutions, school records, use of the public library, and to social data concerning the boys' families. The preferences of fifteen hundred boys in their choice of photoplays, of favorite actors and actresses are also being related to other data concerning them. The location of each motion-picture theater in this area is being studied with reference to the residences of its patrons and the other ecological and social forces in the community. Photographic studies of theaters, of their methods of advertising photoplays, and of play activities being carried on in close proximity to motion-picture theaters are being developed to complete the picture of the social rôle of the movies.

The major emphasis, however, is being placed upon various techniques which represent in general the case-study approach. In the rôle of a participating observer, Dr. R. L. Whitley has made extensive studies of sixty or more

³For a further development of this point of view, see the articles by R. L. Whitley, "The Case Study as a Method of Research," *Social Forces*, May 1932, and "Case Studies in the Boys' Club Study," *The Journal of Educational Sociology*, September 1932.

⁴Pauline P. Tripp, psychologist of the New York House of Refuge, cooperated in the administration of these tests.

⁵See Irving V. Sollins, "The Hollerith Statistical Method," *The Journal of Educational Sociology*, September 1932.

delinquent or truant boys.⁶ In each of these case studies there was an attempt critically and carefully to relate the motion-picture theater and the photoplay experience of the boy to the rather complete picture of his life which was obtained. Another approach involves the use of the life-history technique with delinquent and nondelinquent boys. In addition to the written life history, a new technique was developed: boys were asked to dictate their life histories and their impressions about life, motion pictures, and motion-picture actors to a dictating machine.

While the case-study techniques recorded above have been utilized with profit, it was early recognized that this study would require other methods as well. A distinct effort was made to relate the research not only to attitudes and to impressionistic reports in the life histories of the individuals, but also to overt behavior and to an analysis of comparable groups of delinquents and nondelinquents.

The "controlled-interview" technique, devised and instituted by Dr. Thrasher, is one of several methods developed to meet this requirement. The time required for recall; the extent to which individual boys can recall the names of photoplays, of actors and actresses seen; the content of the boy's "story of the picture"; his account of the "best picture ever seen"; his preference as to type of pictures, of actors, and of actresses is recorded and related to his conduct record. This method for the comparative study of the effect of varying motion-picture experience is regarded as more promising than the study of groups of children manifesting different frequencies of attendance in which reliability depends upon the report of the child. The conceptions of types of life usually pictured in the movies, but infrequently experienced by city boys, are also related to the conduct record of each boy. A standardized interview schedule and interview situation have been maintained. The chief purpose of the controlled interview method is to compare and contrast the motion-

⁶*Op. cit.*

picture experience as recorded in the interviews of fifty delinquents with those of fifty nondelinquents.

Another productive method is one which studies not only overt conduct, but even definitely criminal behavior. This involves the cautious use of properly trained and very carefully selected investigators who are able to keep in touch with delinquent groups, with antisocial gangs, and to report upon instances in which techniques of crime or of exploitation or antisocial schemes of life seen in motion pictures have been used by members of such groups in their criminal activities.⁷ Thus, conversation of individuals about their antisocial activities and descriptions of their mannerisms, their characteristic verbal expressions, and their ways of rationalizing their conduct have been assembled and related to motion-picture patterns. In this way it has been possible to discover instances in which personality patterns and schemes of life can be seen in terms of either a "good" or a "bad" influence of certain motion-picture experiences.

The attempt to conduct exhaustive socio-analysis of a sampling of the cases of boy delinquency found in the area represents another effort to get at the problem through an emphasis upon overt behavior. Through the courtesy of the officials of institutions for delinquents it was possible to make sociological examinations of approximately seventy-five boys from the area of special study and to collate with them psychological tests and, in many cases, examinations and diagnoses by psychiatrists. The social case records of each boy's family, his school and institutional record, and all other data concerning his neighborhood were summarized. Psychological tests were administered and one or more interviews of an hour and a half or more in length were conducted with each boy. A unique factor in these interviews has been the use of exceptionally well-qualified men stenographers⁸ to "sit in" and to

⁷All data, of course, are confidential and are not to be used in such a way as to make possible identification of persons.

⁸Through the cooperation of the Emergency Work Bureau of New York City.

make a verbatim record of each of these interviews. These records, plus the special reports of the psychologist and consulting psychiatrists, constitute the basis for the interpretations which will ultimately be obtained through this method. In each of these interviews an effort was made not only to see the total delinquency pattern of the individual, but also to perceive the exact rôle of the photoplay and the motion-picture theater in problem behavior.

As a corollary to this method it was thought advisable for comparative purposes to use the same procedure in following up outstanding cases outside the area of special study, but within the larger urban area, in which it *had been reported* that motion pictures were considered a prime factor in delinquency. Thus, newspaper items and the reports of social workers, teachers, and school officials were used as a means for locating pertinent cases in which it had been thought that the movies contributed to delinquency.

An intensive study was made of nineteen selected photoplays and of the reactions of boys and young men who had seen these pictures to the photoplay, to the actors and actresses, and to the ideas conveyed by these pictures. Two hundred and thirty-seven interviews, each lasting over an hour in length, have been conducted in this way by especially trained interviewers, well versed in the plots of the photoplays upon which they were specializing. Complete stenographic records of all these interviews have been prepared for comparison and summarization. Finally, group interviews with several boys upon a number of photoplays have been conducted and a verbatim record of all of these has been made by the stenographers.

The present task confronting the motion-picture project of the Boys' Club Study is the synthesis and interpretation of the numerous and varied data now in hand and the eventual addition of any further data necessary for filling in "blind spots" in the total picture. It is expected that this phase of the project will continue until July 1, 1933.¹

¹Some of the preliminary findings from the research will be published in the April, 1933, number of *THE JOURNAL* under the title "Motion Pictures and Juvenile Delinquency."

METHODS FOR ANALYZING THE CONTENT OF MOTION PICTURES

Edgar Dale

The purpose of the study described in this report is twofold: First, a method was devised for analyzing the content of motion pictures, and second, this method was used to analyze the content of typical motion pictures. It is the specific purpose of this article to describe the methods used for discovering the content of motion pictures.

A series of criticisms of and claims for theatrical motion pictures have been made which cannot be answered until studies have been made of motion-picture content. There is the charge, for example, that certain fundamental areas of human concern are not treated at all in motion pictures. It is further charged that there is preoccupation with certain areas of human living—a preoccupation which is wholly unjustified and sometimes harmful. A second type of charge is leveled at specific content within the motion picture. Some maintain that certain fine ideals of human living are consistently portrayed by current motion pictures. Others declare that the motion pictures are almost entirely preoccupied with the depiction of crime; the approval of race prejudice; the covert and sometimes explicit approval of sexual impropriety; and frequent display of vulgarity. These same persons maintain that, in general, the content of such motion pictures not only has a harmful effect upon Americans but also puts us in an unfavorable light abroad. A study of the content of motion pictures makes it possible to secure evidence on these disputed questions.

The only way we can know the effective content of a motion picture is through the responses that individuals make to it. Because of a common background of experience most individuals will react very similarly to certain images which they see on the screen. This agreement among individuals as to what they see on the screen represents the common denominator of communication. So, within cer-

tain limits, there will be a series of reactions to a screen story which differ very little among individuals. We have used the word *content*, therefore, to cover the common reactions which we should expect typical individuals to get from a motion picture. It is true that if we wished adequately to analyze all the effective content of motion pictures it would be necessary to sample progressively the reactions of all possible viewers until we had reached a point where no significantly new reactions occurred. This it was manifestly impossible to do. Highly specialized reactions to motion pictures such as might be made by a specialist in the field of photographic art are therefore not included in our study.

It is evident from the nature of the charges mentioned above that two types of analyses of content are necessary. The first is a study of the general themes or the areas in which motion pictures have been developed. The second is a type of analysis which describes verbally, with much precision and detail, the content of a motion picture. A survey of the literature quickly disclosed that this evidence had not yet been secured and that analyses of the general and specific type were necessary.

The methods used to analyze films for their general themes must depend, of course, upon the type of evidence available regarding such content. The ephemeral nature of the motion-picture film makes it impossible to view the motion pictures of past years to discover their content. In many cases the films are not available and positives would have to be printed at a cost that would be prohibitive for the purposes of this investigation.

Our source of information concerning the pictures which had been produced during these years was Harrison's Reports,¹ a reviewing service to exhibitors, which furnishes a short account of the story of the film and a statement of its probable box-office value. The accuracy of these stories was validated by comparing them with other writ-

¹Harrison's Reports, 1440 Broadway, New York, N. Y.

ten accounts and by verifying those accounts of motion pictures which the investigators had viewed. We decided to make our study one of the general content of 500 feature pictures produced in 1920, 1925, and 1930. This represents the total output of feature pictures released in these years by the major producing organizations.

Our next problem was to discover the classes into which these pictures might logically fall. We adopted for this purpose what might be termed a common-sense classification; in other words, a classification which is similar to that which lay adults commonly use for the description of motion pictures. Our tentative examination of the stories showed that they grouped themselves into the following classes: crime, sex, love, mystery, war, children, history, travel, comedy, and social propaganda. Subclassifications were drawn up under each of these categories; first, in order to assist the classifier; and second, in order that further data might be gathered concerning the content of the motion picture. These subclassifications were given a number and were checked in the appropriate column of the data sheet. The symbols A and B were used to designate those films where the reviewer felt that there was not only a major theme but also a strong minor theme. No attempt was made to discover the objectivity of these subclassifications.

Does this method of classification yield uniform results when utilized by trained workers? To test this out we took 100 sample reports at regular intervals from each of the three groups of 500 pictures. The reviewers were asked to use the instructions prepared and classify them according to their best judgment. We discovered that in the 1920 movies there was perfect agreement among the three readers in 87 out of 100 pictures when classified as to type; e. g., crime, sex, love, and so on. For the 1925 pictures there was perfect agreement in 86 cases out of 100, and for the 1930 pictures there was perfect agreement in 88 out of 100 pictures. This is a perfect agree-

ment of approximately nine cases in every ten. The technique was therefore considered satisfactory for our purpose; namely, to classify motion pictures according to the main types set up by us. The evidence as to the number of pictures of each type is, therefore, indisputable within the limits given.

The analysis just described is valid for presenting the major themes or leading ideas with which motion pictures are concerned. It is not valid for answering many of the critical questions which sociologists and others are asking concerning the content of motion pictures. For this detailed analysis we viewed one hundred and fifteen motion pictures at the theater. The steps followed in this analysis were these:

1. A canvass was first made of the safeguards which are necessary to ensure fidelity of report when observers are used. Whipple's suggestions for such safeguards² were carefully heeded. He states³ that "if the expectant attention is properly directed, however, the efficiency of observation is greatly increased." This precaution was observed in this fashion: First of all, the observers familiarized themselves with the story before they went to the theater. The motion-picture reviews in the daily papers usually gave such an account. Reading the story before reviewing the picture gave the investigators a frame of reference, a schematized outline which made it possible for them to grasp easily what occurred on the screen. Second, each observer carried a schedule of points on which to secure information. This schedule included the critical areas in which we desired information and had been worked out in coöperation with the observers. Further, three observers were used on 75 of the 115 films reviewed by this schedule.

The schedule was developed in this fashion:

All available literature dealing with favorable and unfavorable criticisms of theatrical motion pictures was read with a view of determining the positive and negative values

²*Psychological Bulletin*, XV, 7 (July 1918).

³*Ibid.*, p. 228.

which have been stated for such motion pictures. An analysis schedule was developed based on a classification of these possible values and detriments. The major headings in the final form of this schedule sheet are as follows:

SOCIAL VALUES IN MOTION PICTURES

- I. Nature of American Life and Characters
- II. Nature of Foreign Life and Characters
- III. Motivation of Characters
- IV. Emotion Appeals to Audience and Methods of Making Them—The "Kick" of the Movies
- V. Crime, Delinquency, and Violence
- VI. Relations of Sexes
- VII. Military Situations
- VIII. Depiction of Underprivileged Peoples
- IX. Deportment, Language, Manner and Tone of Voice, Type of Dialogue and Song

Each of these categories was further subdivided. The subdivisions used for Category No. 1 follow:

- I. Nature of American Life and Characters
 - A. Home
 - B. Education
 - C. Religion
 - D. Economies
 - E. Agriculture
 - F. Industry and commerce
 - G. Civic life
 - H. Recreation
 - I. Social conventions
 - J. Clothing conventions
 - K. Narcotics and stimulants
 - L. Law enforcement
 - M. American men
 - N. American women
 - O. American youth
 - P. American children

Each of these subcategories was further divided by a series of points; e. g.:

Industry and Commerce

Pay special attention to the following points:

1. The nature of the portrayal of industrial and commercial activity
2. Goals of characters engaged in industrial activity
3. Methods of distribution of goods
4. Nature of portrayal of owners and workers
5. Nature of the management of industry

The reviewer was expected to note descriptive details in the picture which dealt with these points. It is evident that from these data we shall be able to draw inferences concerning critical questions such as these: Do theatrical motion pictures acquaint the viewers with the major problems of industry and commerce? Do they show industry as democratically or autocratically managed? Are workers shown as thoughtful, independent, and self-respecting, or as thoughtless, dependent, and obsequious? Are the problems of the coal, cotton, and wheat industry realistically portrayed or are motion pictures entirely free from problems that beset American industrial civilization?

2. Accuracy of report was further ensured by following a second warning of Whipple's; e. g.: "Whenever any interval of time elapses between the actual carrying out of observation and the recording of it by word or gesture or pen, the accuracy and completeness of the record tends to be reduced by errors of memory."⁴ Each observer recorded at the theater the pertinent material which he was seeing on the screen. He occupied a seat near a light and it was possible in this way to make satisfactory notes. These notes were written up either that day or the next. Even with these precautions, minor errors were discovered. This situation was met, in part, by observing a third canon set up by Whipple: "When a number of persons report upon the same matter, those details upon which agreement appears may in general be considered as correct."⁵

An analysis of this type makes possible the answering of many important questions concerning motion-picture content. Its deficiency lies in the fact that it does not make available the total context in which each of the situations occurred. We felt, further, that we needed a number of accounts which would present almost completely the entire range of content in a motion picture in the context of the narrative itself. To that end, we secured from the

⁴*Op. cit.*, p. 233.

⁵*Ibid.*, p. 234.

producers dialogue scripts and used them in our analysis of 40 motion pictures. The script contains all the dialogue and enough of the settings and action to give each bit of dialogue its proper chronological order. The observers for these 40 motion pictures were all trained stenographers and the schedules were used as before. What the observers now did was to:

1. Familiarize themselves with the dialogue script before attending the motion picture.

2. Attend the film and take stenographic notes of all materials not included in the dialogue script. This consisted of detailed descriptions of settings, clothing worn, gestures, intonations and facial expressions of characters, approximate age, economic levels, and so on.

3. Immediately write up the picture in the form of a running narrative based upon a combination of the dialogue script and stenographic notes, every change of scene being carefully indicated. These reviews will average approximately 40 double-spaced typewritten pages each.

Of the 40 pictures thus reviewed, 27 were viewed by two or more trained observers, the remaining 13 being viewed by one trained observer who had been the research assistant throughout the entire experiment.

The final results of this investigation as far as methodology are: (1) a reliable technique for the classification of motion pictures according to major theme, (2) a schedule sheet by means of which critical information about motion pictures can be secured by trained observers, and (3) a technique for highly detailed film analysis.

The technique for evaluating motion pictures according to major theme was applied to 500 feature pictures in each of the years 1920, 1925, and 1930. The schedule sheet was applied to 75 motion pictures and their content determined through this method. And finally, a highly detailed narrative account was secured through the application of this schedule sheet to 40 additional motion pictures.

THE RELATION OF MOTION PICTURES TO STANDARDS OF MORALITY

Charles C. Peters

There has been a vast amount of argument regarding the extent to which commercial motion pictures are in conflict with our standards of morality. Many persons have been charging the movies with "the vilest and the most insidious immorality," while a few others have condemned them on the ground that they are as timidly conventional in morals as were the old-time Sunday School library books. In this agitation neither side has been able to appeal to objective evidence, either as to what constitutes morality or as to the amount of conflict by motion pictures with it if defined. On the contrary, the discussion has been emotionalistic and propagandist in character and has turned upon each individual spokesman's personal interpretation of what constitutes the demands of morality. This study was conducted to get objective evidence on this question of the exact nature and amount of divergence of conduct in commercial motion pictures from moral standards so that the formulation of social policies regarding the matter might be predicated upon fact rather than upon passion.

At first thought "morality" may seem to be so vague an entity that it could not be studied objectively. On the contrary, it is something very definite and tangible. Morality is merely conformity with the mores of the group, and the mores are merely the ways of acting and evaluating to which the group has become accustomed. Because the members of the group have become so completely habituated to these ways of acting and judging, these habits function so facilely that men feel at peace when performing them and emotionally disturbed and self-conscious when breaking them. This contentment on the one hand, and disturbance on the other, early developed into bases of rationalized judgments of values, so that acts are called

"right" when they conform with the customs and "wrong" when they conflict with these customs. To reduce "morality" to definiteness, we need, therefore, merely to determine what these mores, these customs, are.

But when we enter upon this task, we find considerable complication for a number of reasons:

1. The mores are very, very many—thousands in number. The group has its made judgments on every type of conduct that is sufficiently recurrent to have led to habit formation. Moreover, the method of response is determined not merely by the situation abstractly considered, but by the balance among the conditioning factors that constitute the situation. When these variants within the types are added to the manifoldness of the types themselves, it is obvious to what vast numbers the individual mores must mount. Moreover, in this delicate balance of conditioning circumstances, accident, particularly the suggestion of members of the group with more or less prestige, may determine the response of the group in a different direction from what it would have been had this accidental component exerted its force in another direction.

2. Opportunities to make precise observations of responses under perfectly typical conditions may be rare. Observations may need to be too few to ensure reliability, or may need to be taken in artificial forms which destroy their validity. Particularly when these responses must be determined by verbal testimony, there may be a certain hypocrisy about the report—especially in periods when the mores are changing.

3. In these days of the interlacing of groups, there may not be uniformity in the reactions of the individuals even though they appear to belong to the same social groups. The solidarity, in other words, that sociologists predicate for a social group may be far from complete. Groups, too, may differ from one another so that there would be different moralities within the same large geographical area.

Our problem became, then, to invent some device by which we could ascertain the mores of groups with sufficient definiteness that we could deal with them quantitatively and in a form that would permit a precise showing of the degree of parallelism between the conduct exemplified in motion-picture shows and these approved customs of the groups. This we achieved by making "scales" of acts of varying degrees of "goodness" or "badness" (that is, varying amounts of positive or negative divergence from

the mores) in respect to a number of types of situations. We should have been glad to have each of these acts occur in a natural setting in social life and to measure objectively the responses of a large sampling of the group to it; but that was, of course, not feasible. Our second choice would have been to show these types in a motion picture, or other dramatic representation, and similarly measure responses; but that, too, proved impracticable. We, therefore, set these acts before respondents verbally and secured from them verbal testimony of their emotional reactions. Limitation on space and on the time of the readers made it necessary for us to describe each of the acts briefly, but we tried to make the descriptions vivid enough and complete enough that the respondent would fall into his customary reaction to it, or at least would recognize how he reacts to such an incident when it occurs in real life. Each paragraph carried at its head a caption more briefly describing the act. Following are two examples:

HUSBAND KISSES WIFE DELICATELY IN PRIVATE

At times, husbands are more sentimental than at others. This evening as Mrs. Waverly sat upon the davenport listening to the radio program, her husband came up behind her and quietly kissed her on the cheek.

ENGAGED COUPLE KISS AS THEY WALK ALONG IN PUBLIC

It was one of those rare days in spring, and Joan and Kenneth were taking advantage of it by walking along the country road arm in arm. From time to time, and utterly disregarding the passing vehicles, Kenneth would lean over and kiss Joan on the cheek, or again they would stop and do the thing right.

Three hundred twenty-six such samples of conduct were submitted to 187 persons, representing a fairly random sample of society, for a determination of the degree of "badness" of each of the acts. These 326 bits of conduct were not a sampling of morality as a whole, but of only four phases of it that are extensively played up in commercial motion pictures; aggressiveness of a girl in love making, kissing, democratic attitudes and practices, and the treatment of children by parents. The specimens represented, however, different degrees of "badness" of an

aggregate of 54 type-variants within these four phases of morality, so that their evaluation involved the making of essentially 54 scales. The 187 respondents were asked to separate the 326 cards on which the descriptions of these acts were printed into three piles:

1. Those that they disapproved of—that grated on their sensibilities
2. Those that struck them as O. K. but nothing to brag about
3. Those that not only aroused no resentment, but actually challenged the admiration of the rated.

From the percentage of persons placing the items in the three piles, a numerical index of "badness" was derived in terms of the *sigma* placement of the mid-neutral point along the base line of a normal distribution. The values theoretically could run from plus 3.00 to minus 3.00, but in fact this whole range was not used because there was no item to which we got a hundred per cent disapproval or a hundred per cent admiration. The process of deriving these values is too technical to permit description in the space we may take here, but it is fully explained in the author's forthcoming monograph. It is sufficient to say that there resulted from the process scales of a "ladder" type with quantitative indexes for their different levels, not unlike the scales employed for measuring the merit of English composition or of handwriting.

With these scales, the mores of eighteen different social groups were measured within the areas covered by the scales. That is, it was determined how far down on each scale conduct might go and yet be within the approval of 25 per cent of each group, or 50 per cent, or 75 per cent, or any other percentage. With these same scales a sampling of 142 feature motion pictures and 42 comics was rated by consensus of first three and later five judges, the scales being handled in much the same manner as that in which English composition scales are employed in rating compositions. In our monograph, we show in great detail

the percentage of feature films and of comics lying above and below the 25 per cent line, the 50 per cent line, and the 75 per cent line of approval, of admiration, and of disapproval of each of the social groups whose mores we had measured.

Our measurements proved to be surprisingly reliable. The reliability coefficients for the scale values ranged from .983 to .994 and those for the measurement of the mores of groups with the scales, from .941 to .989. Motion pictures could be rated with the use of the scales by committees of five members each with reliabilities usually above .90. These reliability coefficients are as high as those achieved by the better objective educational tests. They show that the technique we developed is one of great promise for studying scientifically not only our particular problem but also other social phenomena hitherto inaccessible to scientific research.

Any report of our findings that is to do justice to the study must be one of great detail, since the conflict with standards of morality was found to be one of degree rather than of presence or absence. But in general we may say that motion pictures were found to be most in conflict with the mores, in the sense that many scenes lay below the point in "badness" where half of a random sample of the members of society would approve them, in respect to aggressiveness of a girl in love making. In this area 70 per cent of the scenes in feature films lay below the "approval index" of our sample of the total population and only 30 per cent above. The others lay in descending order of amount of conflict as follows: kissing, democratic attitudes and practices, the treatment of children by parents. In respect to the last, motion pictures are distinctly above the mores in the sense that 75 per cent of the scene lay above the "approval index" of our 18 groups combined and only 25 per cent below this "approval index."

But any complete picture of the situation must be got from an inspection of the detailed findings given in our full report.

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